

## Claims

[c1] **WHAT IS CLAIMED IS:**

1. An optical system for projection display comprising:  
a light source for producing a light beam;  
an imaging system having a light valve and a projection  
lens; and  
a total reflection lens having a total reflection surface;  
wherein the total reflection lens receives the light beam  
from the light source and, by using the total reflection  
surface, reflects the light beam onto the light valve which  
reflects the light beam into the projection lens.

[c2] 2. The optical system of claim 1, wherein the total re-  
flection lens further comprises a transparent surface fac-  
ing to the light source.

[c3] 3. The optical system of claim 1, wherein the total re-  
flection surface is a total reflecting coating.

[c4] 4. The optical system of claim 1, wherein the total re-  
flection surface is a mirror.

[c5] 5. The optical system of claim 1, wherein an integrator is  
placed between the total reflection lens and the light  
source.

[c6] 6. The optical system of claim 1, wherein the total reflection lens is a concave mirror.